

IN THE CLAIMS:

Please cancel claims 5 and 6 and amend the claims as follows:

1. (Currently Amended): A control apparatus for numerical control ~~adapted for~~ of a cutting machine ~~having~~ comprising a turret which ~~can be turned to an arbitrary position~~ is rotatable about a turret axis and a cutting tool attached to the turret and rotatable about a tool axis, wherein;

A7
~~an X-axis offset value (ΔX) and a Z-axis offset value (ΔZ) of a cutting edge of a cutting tool on coordinates with respect to said cutting machine are calculated in accordance with a turning angle of said turret, and said X-axis offset value and said Z-axis offset value are indicated on a display, and~~

an X-axis value ($L2r$) of a cutting edge of said cutting tool when said cutting tool is rotated about said tool axis to a tool rotation angle (β) is calculated according to the equation of $L2r = L2 \cdot \cos \beta$; and

an X-axis offset value (ΔXr) and a Z-axis offset value (ΔZr) when said turret is turned to a turret rotation angle (α) are calculated according to the following equations 3 and 4, wherein said X-axis offset value (ΔXr) after the rotation of said cutting tool and said Z-axis offset value (ΔZr) after the rotation of said cutting tool are indicated on a display;

$$\Delta Xr = (\Delta Az \cdot \cos \alpha - \Delta Axr \cdot \sin \alpha) \times 2 \quad \text{(Equation 3)}$$

$$\Delta Axr = L2r + L4$$

$$\Delta Az = L1 + L3$$

$$\Delta Zr = -\Delta Az \cdot \sin \alpha - \Delta Axr \cdot \cos \alpha \quad \text{(Equation 4),}$$

wherein L1 is a Z-axis value of the tool, L4 is an X-axis value of the turret

and L3 is a Z-axis value of the turret.

2. (Original): A control apparatus according to claim 1, wherein an X-axis wear compensation value (ΔX_t) and a Z-axis wear compensation value (ΔZ_t) are indicated in relation to said X-axis offset value (ΔX) and said Z-axis offset value (ΔZ).

3. (Currently Amended): A control apparatus according to claim 1, wherein when said turret is turned to a turning angle (α), an X-axis value of the tool (L2), a Z-axis value of the tool (L1), an X-axis value of the turret (L4) and a Z-axis value of the turret (L3) are converted according to the following equations to calculate said X-axis offset value (ΔX) and said Z-axis offset value (ΔZ)[[.]]:

$$\Delta X = (\Delta A_z \cdot \cos \alpha - \Delta A_x \cdot \sin \alpha) \times 2 \quad (\text{Equation 1})$$

$$\Delta A_x = L2 + L4$$

$$\Delta A_z = L1 + L3$$

$$\Delta Z = -\Delta A_z \cdot \sin \alpha - \Delta A_x \cdot \cos \alpha \quad (\text{Equation 2})$$

4. (Currently Amended): A control apparatus according to claim 2, wherein when said turret is turned to a turning angle (α), an X-axis value of the tool (L2), a Z-axis value of the tool (L1), an X-axis value of the turret (L4) and a Z-axis value of the turret (L3) are converted according to the following equations to calculate said X-axis offset value (ΔX) and said Z-axis offset value (ΔZ)[[.]]:

$$\Delta X = (\Delta A_z \cdot \cos \alpha - \Delta A_x \cdot \sin \alpha) \times 2 \quad (\text{Equation 1})$$

$$\Delta A_x = L2 + L4$$

$$\Delta A_z = L1 + L3$$

$$\Delta Z = -\Delta A_z \cdot \sin \alpha - \Delta A_x \cdot \cos \alpha \quad (\text{Equation 2})$$

5. (Cancelled)

6. (Cancelled)

7. (Currently Amended): A control apparatus for numerical control adapted for a cutting machine in which a cutting tool is rotated around the tool axis thereof to an arbitrary position, wherein an X-axis value (L2r) of a cutting edge of said cutting tool on a coordinate with respect to said cutting machine is calculated in accordance with a rotation angle of said cutting tool,

an X-axis offset value (ΔX_r) after the rotation is obtained from the following equations employing said X-axis value of the tool (L2r) and an X-axis value of ~~the~~ a turret (L4), and

said X-axis offset value (ΔX_r) after the rotation is indicated on a display;

$$\Delta X_r = \Delta A_{xr} \times 2$$

$$\Delta A_{xr} = L2r + L4.$$

8. (Currently Amended): A control apparatus for numerical control adapted for a cutting machine in which a cutting tool is rotated around the tool axis to an arbitrary position, wherein a Y-axis offset value (ΔY) of a cutting edge of said cutting tool on a coordinate with ~~respective~~ respect to said cutting machine is calculated in accordance with a rotation angle of said cutting tool, and said Y-axis offset value is indicated on a display.

9. (Currently Amended): A control apparatus according to claim 7 or 8, wherein a Y-axis offset value (ΔY) of said cutting edge of said cutting tool on coordinates with ~~respective~~ respect to said cutting machine is calculated in accordance with the rotation angle of said cutting tool, and

an X-axis wear compensation value (ΔX_t) and a Y-axis wear compensation value (ΔY_t) are indicated in relation to ~~said~~ an X-axis offset value (ΔX_r) after the

A1 rotation and said Y-axis offset value (ΔY).
